

In the Claims:

1. (Currently Amended) A method of forming an insulator in a silicon carbide electronic device, comprising:

fabricating a nitrided oxide layer on a layer of 4H polytype silicon carbide; and
annealing the nitrided oxide layer in an environment containing hydrogen at a temperature of less than about 900 °C.

2. Cancelled.

3. (Original) The method according to Claim 1, wherein the silicon carbide layer comprises a silicon carbide layer on a non-silicon carbide substrate.

4. (Original) The method according to Claim 1, wherein the silicon carbide layer comprises a portion of a silicon carbide substrate.

5. (Original) The method of Claim 1, wherein the step of fabricating a nitrided oxide layer comprises at least one of forming the oxide layer in at least one of nitric oxide and nitrous oxide and annealing an existing oxide layer in at least one of nitric oxide and nitrous oxide.

6. (Previously Presented) A method of forming an insulator in a silicon carbide electronic device, comprising:

fabricating a nitrided oxide layer on a layer of silicon carbide; and

annealing the nitrided oxide layer in an environment containing hydrogen;

wherein the step of fabricating a nitrided oxide layer comprises the steps of:

fabricating an oxide layer; and

fabricating a nitride layer on the oxide layer so as to nitridate the oxide layer on which the nitride layer is fabricated.

7. (Original) The method of Claim 6, wherein the step of annealing the oxide layer in an environment containing hydrogen is provided substantially concurrently with the step of fabricating the nitride layer so that the step of fabricating a nitride layer on the oxide layer comprises fabricating a nitride layer on the oxide layer so as to nitride and hydrogenate the oxide layer on which the nitride layer is fabricated.

8. (Currently Amended) A method of forming an insulator in a silicon carbide electronic device, comprising:
fabricating a nitrided oxide layer on a layer of 4H polytype silicon carbide; and
annealing the nitrided oxide layer in an environment containing hydrogen;
wherein the step of annealing the nitrided oxide layer comprises heating the nitrided oxide layer to a temperature of greater than about 400 °C in a hydrogen containing environment as part of a processing step other than a processing step that is only an anneal of the nitrided oxide layer in a hydrogen containing environment.

9. (Original) The method of Claim 1, wherein the step of annealing the oxide layer comprises annealing the oxide layer at a temperature of greater than about 400 °C in a hydrogen containing environment.

10. Cancelled.

11. Cancelled.

12. (Original) The method of Claim 1, wherein the step of annealing the oxide layer comprises annealing the oxide layer at a temperature of between about 400 °C and about 800 °C in a hydrogen containing environment.

13. (Previously Presented) A method of forming an insulator in a silicon carbide electronic device, comprising:

fabricating a nitrided oxide layer on a layer of silicon carbide;
annealing the nitrided oxide layer in an environment containing hydrogen; and
performing subsequent processing steps carried out at temperatures of about 400 °C or greater in a hydrogen containing environment.

14. (Original) The method of Claim 1, wherein the step of annealing is preceded by the step of forming metallization for a semiconductor device associated with the oxide layer.

15. Cancelled.

16. (Previously Presented) The method of Claim 14, wherein the step of annealing the oxide layer comprises a metal contact anneal.

17. (Currently Amended) A method of forming an insulator in a silicon carbide electronic device, comprising:

fabricating a nitrided oxide layer on a layer of 4H polytype silicon carbide; and
annealing the nitrided oxide layer in an environment containing hydrogen;
wherein the step of annealing comprises annealing the oxide layer in forming gas having about 4% hydrogen and 96% inert gases.

18. (Original) The method of Claim 1 further comprising forming a silicon carbide metal oxide semiconductor device having the oxide layer as a gate oxide of the metal oxide semiconductor device.

19. (Original) The method of Claim 1, wherein the step of annealing the oxide layer is carried out for at least about 2 minutes.

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Serial No.: 10/045,542
Filed: October 26, 2001
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20. (Currently Amended) A method of fabricating an oxide layer on a 4H polytype silicon carbide layer, comprising:
- nitriding the existing oxide layer on the 4H polytype silicon carbide layer with at least one of nitric oxide and nitrous oxide; and
 - annealing the nitrided oxide layer at a temperature of between about 400 °C about 900 °C in a hydrogen containing environment for at least about 2 minutes.